**3GPP TSG-RAN WG2 Meeting #127bis R2-2409358**

**Hefei, China, Oct 14th – 18th, 2024**

Source: ZTE Corporation

**Title: Report of [AT127b][105][MOB] (ZTE)**

Agenda item: 7.4.2

Document for: Discussion and decision

# 1 Introduction

This document is to handle the following email discussion:

* [AT127b][105][MOB] (ZTE)

**Scope:** To discuss correction on R2-2408522 (including need of correction).

**Intended outcome:** 37.340 CR in R2-2409357 to be in principle agreed. Discussion summary in R2-2409358 if needed. Email approval.

**Deadline:** Thursday 10:00am.

The participants are invited to provide their contact information in the following table.

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| --- | --- |
| Company | Contact: Name (E-mail) |
| Huawei, HiSilicon | David Lecompte (david.lecompte@huawei.com) |
| Nokia | Srinivasan Selvaganapathy(srinivasan.selvaganapathy@nokia.com) |
| Ericsson | Cecilia Eklöf (cecilia.eklof@ericsson.com) |
| LGE | Hongsuk Kim (hassium.kim@lge.com) |
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# 2 Discussion

In R2-2408522 [1], three changes are proposed to address some miscellaneous clarification/editorial changes:

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| ***Reason for change:*** | To address some miscellaneous clarification/editorial changes:   1. At last meeting, we made some clarifications on the definition of subsequent CPAC by adding “(conditional)” for PSCell addition/change, i.e. the PSCell addition/change also include the conditional case. Some similar clairfication can also be applied for PCell change and some other places of the related description. 2. At last meeting, we made some clarifications on the meaning of “SN format” and “MN format”, and corrected them to “in an SN RRC message” and “in an MN RRC message”, respectively. But the clarification is missed in some places where MN/SN format is still used. 3. If both intra-SN and inter-SN candidate PSCell(s) are configured simultaneously, the SN initiated intra-SN subsequent CPAC with MN involvement procedure shall be used to configure subsequent CPAC for intra-SN candidate PSCell(s). In such case, the security update configuration shall be provided for both intra-SN and inter-SN candidate PSCell(s). In the current SN initiated intra-SN subsequent CPAC with MN involvement procedure, it’s specified that a nested MN initiated SN modification procedure may be triggered when an SN security key change needs to be applied, but it's unclear how to provide the secuirty update configuration for candidate PSCell(s). |
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| ***Summary of change:*** | 1. Added “(conditional)” before PSCell addition, PSCell change and PCell change in some descriptions of subsequent CPAC in section 3.1, 10.3.2 and 10.20. 2. Updated “in SN format” and “in MN format” to “received via an SN RRC message” and “received via an MN RRC message” in section 10.20. 3. Added a note “If there are prepared candidate PSCell(s) in other (candidate) SN(s), the MN may provide a list of KSN and associated sk-Counter values to the SN via the nested MN-initiated SN Modification procedure.” in SN initiated intra-SN subsequent CPAC with MN involvement in section 10.20.   **Impact Analysis**  Impacted 5G architecture options:  NR-DC  Impacted functionality:  Subsequent CPAC  Inter-operability:  1. If the network is implemented according to the CR and the UE is not, there is no inter-operability issue.  2. If the UE is implemented according to the CR and the network is not, there is no inter-operability issue. |

The 1st and 2nd changes are editorial corrections, to implement some corrections (which have been agreed at last meeting) to places where similar changes were missed in the current spec.

**Question 1: Do you agree with the 1st and 2nd changes proposed in R2-2408522?**

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| Company | Yes/No | Comments if any |
| Huawei, HiSilicon | 1 : no, 2:yes | The addition of "(conditional)" in several places gives the impression that when there is not "conditional", then it does not apply e.g. for PSCell change section, but this is not correct.  In the "definition" of SCPAC:  - if "based on pre-configured subsequent CPAC configuration" refers to "conditional PSCell addition or change" at the beginning of the definition, then Rel-17 CPAC matches with the definition  - if it refers to "that is executed after etc" then non-conditional procedures can be based on subsequent CPAC configuration.  A proper definition would be "A subsequent CPAC configuration is a CPA/CPC configuration which is not released by the UE upon PCell change, PSCell change (conditional or not) or SCG release.". Also the first sentence of 10.20 should be removed as it is redundant. |
| Nokia | 1:no; 2:see comments | Agree with HW. The SCPAC can be executed after normal SCG addition also. Change is not essential. OK to consider HW proposal with the change that “which is not implicitly released by UE”  On 2nd change: In RRC spec, the reconfiguration is referred as configuration via MCG not MN. So suggest to change it is as MCG RRC message and SCG-RRC Message instead of MN/SN. |
| Ericsson | Yes, to both. | The addition of (conditional) clarifies that it could be either a conditional PSCell change or a legacy PSCell change. If (conditional) is not added, it gives the impression that only a legacy PSCell change can be executed and that is not the case. |
| LGE | 1: No strong view  2: Yes | For 1st change, it may be better to add ‘conditional PSCell change or non-conditional PSCell change’ instead ‘(conditional) PSCell change’ as a compromise. |
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The 3rd change is to clarify for which cases the SN security update configuration is required, and how to provide the SN security update configuration for intra-SN SCPAC with MN involvement procedure, to make the current procedure clear.

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| 2/3. The MN initiated SN Modification procedure may be triggered by *SN Modification Required* message, e.g. when an SN security key change needs to be applied.  NOTE 12: For SN terminated bearers to be setup for which PDCP duplication with CA is configured in NR MCG side, the SN allocates up to 4 separate Xn-U bearers and the MN provides a logical channel ID for primary or split secondary path to the SN via the nested MN-initiated SN modification procedure.  NOTE X: If there are prepared candidate PSCell(s) in other (candidate) SN(s), the MN may provide a list of KSN and associated sk-Counter values to the SN via the nested MN-initiated SN Modification procedure. |

**Question 2: Do you agree with the 3rd change proposed in R2-2408522?**

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| Company | Yes/No | Comments if any |
| Nokia | No | The SK-counter list is relevant for Inter-SN SCPAC scenario and this NOTE under Intra-SN SCPAC with MN involvement is not needed. In fact if MN need to initiate this procedure for Inter-SN it need to be in the procedure text for Inter-SN procedure. Again the term “nested” is not preferred in the procedure text. |
| Ericsson | Yes |  |
| LGE | No | In this procedure i.e. intra SN SCAC, doesn’t use the list of sk-Counter. Thus, we think the Note seems not needed.  The procedure of inter SN SCPAC is clearly described that MN provides the list of k-Counter and this procedure of intra SN SCPAC is based on the list information. Thus, the change may cause additional ambiguity of security handing. |
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**Any other comments:**

**Question 3: If companies have any other issues or proposed changes, please comment in the table below:**

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| Company | Yes/No | Comments if any |
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# 4 Conclusion

TBD

# 5 References

1. R2-2408522 Corrections for mobility enhancements in stage-2 ZTE Corporation, Ericsson CR Rel-18 37.340 18.3.0 0404 - F NR\_Mob\_enh2-Core